

## CLAIMS

1. A ceramic heater comprising a disc shaped ceramic substrate and a resistance heating element formed: on a surface of the ceramic substrate; or inside the ceramic substrate,  
 5 wherein:  
     the resistance heating element composed of two or more circuits being divided in the circumferential direction is arranged in the outermost periphery of said ceramic substrate; and  
 10 further the resistance heating element composed of a different circuit is formed in the inner portion of said resistance heating element being arranged in the peripheral portion.  
 15
2. The ceramic heater according to claim 1,  
     wherein a relationship of the following expression (1) holds between the total number  $n$  of the circuits of the resistance heating element provided for said ceramic substrate and the diameter  $r$  (mm) of said ceramic substrate:  
 20 
$$n \geq r^{1.94} \times 0.5 \times 10^{-4} \dots (1).$$
- 25 3. The ceramic heater according to claim 1 or 2,  
     wherein said resistance heating element composed of a different circuit has a concentric circles-like or a spiral shape.
- 30 4. The ceramic heater according to any of claims 1 to 3,  
     wherein said resistance heating element composed of a different circuit is a combination of: a resistance heating element having a concentric circles-like or a spiral shape; and resistance heating elements being divided in the circumferential direction.  
 35
5. A ceramic heater comprising a disc shaped ceramic substrate having a diameter of 200 mm or more and a resistance heating element composed of two or more circuits formed: on a surface of the ceramic substrate; or inside the ceramic substrate,  
 40 wherein:  
     at least one of circuits of said resistance heating element is divided in the circumferential direction;  
 45 at least one of circuits of said resistance heating element contains a concentric circles-like or spiral

pattern; and

further the total number of the circuits of said resistance heating element is 3 or more.

- 5 6. A ceramic heater comprising a disc shaped ceramic substrate and a resistance heating element composed of two or more circuits formed: on a surface of the ceramic substrate; or inside the ceramic substrate,

wherein:

- 10 at least one of circuits of said resistance heating element is divided in the circumferential direction;

at least one of circuits of said resistance heating element contains a concentric circles-like or spiral pattern; and

- 15 further a relationship of the following expression (2) holds between the total number  $n$  of the circuits of said resistance heating element and the diameter  $r$  (mm) of said ceramic substrate:

$$n \geq r^{1.94} \times 10^{-4} \dots (2).$$

- 20 7. The ceramic heater according to any of claims 1 to 6, wherein said ceramic heater is used at a temperature of 100 to 800 °C.

- 25 8. A ceramic heater according to any of claims 1 to 7, wherein said ceramic heater is equipped with:

a temperature-measuring element for measuring the temperature of said ceramic substrate;

- 30 a control unit for supplying electric power to said resistance heating element composed of a plurality of circuits;

a memory unit for memorizing the data of a temperature measured by said temperature-measuring element; and

- 35 an operation unit for calculating electric power required for said resistance heating element from said temperature data measured by said temperature-measuring element,

- 40 said ceramic heater being constituted such that respectively different electric powers are supplied to the plurality of circuits of said resistance heating element.

9. The ceramic heater according to any of claims 1 to 8, wherein said ceramic substrate comprises a nitride ceramic or a carbide ceramic.
- 45